CONTENTS OF VOLUME 34

Number 1

Molecules in focus

Roy A. Black 1 Tumor necrosis factor-α converting enzyme

Natalie A. Little and **Aart G. Jochemsen** 6 p63

Review

Laura Polo, Giuliana Valduga, Giulio Jori and **Elena Reddi** 10 Low-density lipoprotein receptors in the uptake of tumour photosensitizers by human and rat transformed fibroblasts

General papers

Zofia Galewska, Lech Romanowicz, Edward Bańkowski and **Stefan Jaworski** 24 Preeclampsia-associated decrease of potential collagenolytic and gelatinolytic activities in the wall of the umbilical cord vein

Nina Petrova, Liliana Gigova and **Pencho Venkov** 33 Dimerization of *Rhizobium meliloti* NifH protein in *Saccharomyces cerevisiae* cells requires simultaneous expression of NifM protein

Keng Meng Khoo and **Chan Fong Chang** 43 Identification and characterization of nuclear CD38 in the rat spleen

P. Anne Underwood, Penny A. Bean and **Jennifer R. Gamble** 55 Rate of endothelial expansion is controlled by cell:cell adhesion

Mohammad D. Bazzi, Nayyar Rabbani and **Ali S. Duhaiman** 70 Inhibition of camel lens ζ-crystallin by aspirin and aspirin-like analgesics

Chao Cheng, Kang Ying, Ming Xu, Wei Zhao, Zongxiang Zhou, Yan Huang, Wei Wang, Jian Xu, Li Zheng, Yi Xie and **Yumin Mao** 78 Cloning and characterization of a novel human transcription factor AP-2β like gene (*TFAP2BL*1)

Evdokia A. Pasheva, Iva Ugrinova, Nadejda C. Spassovaska and **Iliya G. Pashev** 87 The binding affinity of HMG1 protein to DNA modified by *cis*-platin and its analogs correlates with their antitumor activity

Wei Wang, Yan Huang, Zongxiang Zhou, Rong Tang, Wei Zhao, Li Zheng, Ming Xu, Chao Chang, Shaohua Gu, Kang Ying, Yi Xie and **Yumin Mao** 93 Identification and characterization of AGTRAP, a human homolog of murine Angiotensim II Receptor-Associated Protein (Agtrap)

Number 2

Molecules in focus

Nghia T.V. Lee and **Des R. Richardson** 103 Ferroportinl: a new iron export molecule?

Short communication

Xiaohua Ni, Yushu Ma, Haipeng Cheng, Min Jiang, Kang Ying, Yi Xie and **Yumin Mao** 109 Cloning and characterization of a novel human pantothenate kinase gene

Review

Christian Conrad and **Reinhard Rauhut** 116 Ribonuclease III: new sense from nuisance

General papers

A. Ostuni, M.D. Lograno, A.R. Gasbarro, F. Bisaccia and **A.M. Tamburro** 130 Novel properties of peptides derived from the sequence coded by exon 26A of human elastin

Wen-Bin Ou, Yong-Doo Park and **Hai-Meng Zhou** 136 Effect of osmolytes as folding aids on creatine kinase refolding pathway

Kamal Datta, Preeti Babbar, Tapasya Srivastava, Subrata Sinha and **Parthaprasad Chattopadhyay** 148 p53 dependent apoptosis in glioma cell lines in response to hydrogen peroxide induced oxidative stress

David R. Jones, Clive S. D'Santos, Isabel Mérida and **Nullin Divecha** 158 T lymphocyte nuclear diacyloglycerol is derived from both de novo synthesis and phosphoinositide hydrolysis

Mehran Miroliaei and **Mohsen Nemat-Gorgani** 169 Effect of organic solvents on stability and activity of two related alcohol dehydrogenases: a comparative study

Allen J. Bailey, Trevor J. Sims and **Lynda Knott** 176 Phynotypic expression of osteoblast collagen in osteoarthritic bone: production of type I homotrimer

M. Carmen Hidalgo, Antonia Expósito, José M. Palma and **Manuel de la Higuera** 183 Oxidative stress generated by dietary Zn-deiciency: studies in rainbow trout (*Oncorhynchus mykiss*)

Kenneth R. Cutroneo 194 Relationship between glucocorticoid-mediated early decrease of protein synthesis and the steady state decreases of glucocorticoid receptor and TGR-β activator protein

Ji Young Son, Sook Shin, Kwang Ho Choi and **In Kook Park** 204 Purification of soluble acetylcholinesterase from Japanese quail brain by affinity chromatography

Number 3

Molecules in focus

Judith M. Greer and **Marjorie B. Lees** 211 Myelin proteolipid protein—the first 50 years

María L. Tomaro and **Alcira M. del C. Batlle** 216 Bilirubin: its role in cytoprotection against oxidative stress

Review

Patrizia Agostinis, Annelies Vantieghem, Wilfried Merlevede and **Peter A.M. de Witte** 221 Hypericin in cancer treatment: more light on the way

General papers

Eduardo Mirpuri, Elena R. García-Trevijano, Inma Castilla-Cortazar, Carmen Berasain, Jorge Quiroga, Carlos Rodriguez-Ortigosa, José M. Mato, Jesús Prieto and **Matías A. Avila** 242 Altered liver gene expression in CCl_4-cirrhotic rats is partially normalized by insulin-like growth factor-I

Nazmi Özer, Cumhur Bilgi and **I. Hamdi Ögüs** 253 Dog liver glucose-6-phosphate dehydrogenase: purification and kinetic properties

Wen-jun He, Shuang Tang and **Wang-yi Liu** 263 In vitro interaction of eukaryotic elongation factor 2 with synthetic oligoribonucleotide that mimics GTPase domain of rat 28S ribosomal RNA

Eduardo García-Fuentes, Almudena Gil-Villarino, M[a] Flor Zafra and **Eduardo García-Peregrín** 269 Dipyridamole prevents the coconut oil-induced hypercholesterolemia. A study on lipid plasma and lipoprotein composition

Aleksandra Čvoro and **Gordana Matić** 279 Hyperthermic stress stimulates the association of both constitutive and inducible isoforms of 70 kDa heat shock protein with rat liver glucocorticoid receptor

Alike W. van der Velden, Kirsten van Nierop, Harry O. Voorma and **Adri A.M. Thomas** 286 Ribosomal scanning on the highly structured insulin-like growth factor II-leader 1

Zhi-Ping Feng and **Chun-Ting Zhang** 298 A graphic representation of protein sequence and predicting the subcellular locations of prokaryotic proteins

Number 4

Molecules in focus

Jonas Heilskov Graversen, Mette Madsen and **Søren K. Moestrup** 309 CD163: a signal receptor scavenging haptoglobin–hemoglobin complexes from plasma

Marc Payton and **Steve Coats** 315 Cyclin E2, the cycle continues

Haitham T. Idriss, Osama Al-Assar and **Samuel H. Wilson** 321 DNA polymerase β

Short communications

Zhen Zhang, ChaoQun Wu, Shu Wang, Wei Huang, ZongXiang Zhou, Kang Ying, Yi Xie and **YuMin Mao** 325 Cloning and characterization of ARHGAP12, a novel human rhoGAP gene

Lorena G. Fenoll, José Neptuno Rodríguez-López, Francisco García-Molina, Francisco García-Cánovas and **José Tudela** 332 Michaelis constants of mushroom tyrosinase with respect to oxygen in the presence of monophenols and diphenols

General papers

Noxolo Mkwetshana, Ryno J. Naudé, Willem Oelofsen, Koji Muramoto and **Takako Naganuma** 337 The purification and characterisation of m-calpain from ostrich brain

Miguel Martín, Manuel Macías, Josefa León, Germaine Escames, Houda Khaldy and **Daríos Acuña-Castroviejo** 348 Melatonin increases the activity of the oxidative phosphorylation enzymes and the production of ATP in rat brain and liver mitochondria

M.C. Manjabacas, E. Valero, M. Moreno-Conesa, M. García-Moreno, M. Molina-Alarcón and **R. Varón** 358 Linear mixed irreversible inhibition of the autocatalytic activation of zymogens. Kinetic analysis checked by simulated progress curves

Andreas Artl, Gunther Marsche, Pirkko Pussinen, Gabriele Knipping, Wolfgang Sattler and **Ernst Malle** 370 Impaired capacity of acute-phase high density lipoprotein particles to deliver cholesteryl ester to the human HUH-7 hepatoma cell line

Eric S. Hungness, Timothy A. Pritts, Guang-Ju Luo, Dan D. Hershko, Bruce W. Robb and **Per-Olof Hasselgren** 382 IL-1β activates C/EBP-β and δ in human enterocytes through a mitogen-activated protein kinase signaling pathway

Rong-Gui Hu, Qi-Wei Zhai, Wen-Jun He, Ling Mei and **Wang-Yi Liu** 396 Bioactivities of ricin retained and its immunoreactivity to anti-ricin polyclonal antibodies alleviated through pegylation

C. Cobaleda, I. Muñoz-Barroso, A. Sagrera and **E. Villar** 403 Fusogenic activity of reconstituted newcastle disease virus envelopes: a role for the hemagglutinin-neuraminidase protein in the fusion process

Joyce Dijkmans, Jean Xu, Stefan Masure, Sridevi Dhanaraj, Anna Gosiewska, Jeff Geesin, Jörg Sprengel, Sarah Harris, Peter Verhasselt, Robert Gordon and **Jeff Yon** 414 Characterization of platelet-derived growth factor-C (PDGF-C): expression in normal and tumor cells, biological activity and chromosomal localization

Number 5

Molecules in focus

Steve E. Jones and **Catherine Jomary** 427 Clusterin

John H. Kehrl and **Srikumar Sinnarajah** 432 RGS2: a multifunctional regulator of G-protein signaling

Reviews

José M. Matés, Cristina Pérez-Gómez, Ignacio Núñez de Castro, Maite Asenjo and **Javier Márquez** 439 Glutamine and its relationship with intracellular redox status, oxidative stress and cell proliferation/death

Martin J.O. Francis, Rita L. Lees, Elisa Trujillo, Pablo Martín-Vasallo, Johan N.M. Heersche and **Ali Mobasheri** 459 ATPase pumps in osteoclasts and osteoblasts

General papers

Guido A.F. Van Dessel, Hilde M. De Busser and **Albert R. Lagrou** 477 Prenylcysteine carboxymethyltransferase type III activity is decreased in retinoic acid-treated SH-SY5Y neuroblastoma cells

Del L.C. Sim, W.M. Yeo and **Vincent T.K. Chow** 487 The novel human HUEL (C4orf1) protein shares homology with the DNA-binding domain of the XPA DNA repair protein and displays nuclear translocation in a cell cycle-dependent manner

Adeeb A. Girjes, Dahlia Keriakous, Gillian W. Cockerill, Ian P. Hayward, Gordon R. Campbell and **Julie H. Campbell** 505 Cloning of a differentially expressed tropomyosin isoform from cultured rabbit aortic smooth muscle cells

M.G.L. Ribeiro, A.R. Pedrenho and **A. Hassón-Voloch** 516 Electrocyte (Na^+,K^+)ATPase inhibition induced by zinc is reverted by dithiothreitol

Graciela E. Hurtado de Catalfo and **I. Nelva T. de Gomez Dumm** 525 Polyunsaturated fatty acid biosynthesis from [1-^{14}C]20:3 n-6 acid in rat cultured Sertoli cells. Linoleic acid effect

Hirofumi Ogawa, Tomoharu Gomi, Fusao Takusagawa, Toru Masuda, Takuya Goto, Takanobu Kan and **Num-Ho Huh** 533 Evidence for a dimeric structure of rat liver serine dehydratase

Cristina Tomás-Zapico, Jorge Martínez-Fraga, María Josefa Rodríguez-Colunga, Delio Tolivia, Rüdiger Hardeland and **Ana Coto-Montes** 544 Melatonin protects against δ-aminolevulinic acid-induced oxidative damage in male Syrian hamster Harderian glands

C.E. Evans 554 Bisphosphonates modulate the effect of macrophage-like cells on osteoblast

Hong-Wei Zhou, Yong-Doo Park and **Hai-Meng Zhou** 564 Lead ion effect on creatine kinase: equilibrium and kinetic studies of inactivation and conformational changes

Number 6

Molecules in focus

Hans-Jürgen Mägert, Peter Kreutzmann, Ludger Ständker, Michael Walden, Katrin Drögemüller and **Wolf-Georg Forssmann** 573 LEKTI: a multidomain serine proteinase inhibitor with pathophysiological relevance

Johan Van Lint, An Rykx, Tibor Vantus and **Jackie R. Vandenheede** 577 Getting to know protein kinase D

Irmgard Irminger-Finger and **Wai-Choi Leung** 582 BRCA1-dependent and independent functions of BARD1

Short communication

David J. Armstrong, Paul Hiscott, Mark Batterbury and **Stephen Kaye** 588 Corneal stromal cells (keratocytes) express thrombospondins 2 and 3 in wound repair phenotype

General papers

Franca Cocci, Massimo Miniati, Simonetta Monti, Eleonora Cavarra, Federica Gambelli, Luigi Battolla, Monica Lucattelli and **Giuseppe Lungarella** 594 Urinary desmosine excretion is inversely correlated with the extent of emphysema in patients with chronic obstructive pulmonary disease

Ana M. Gutiérrez, Guillermo R. Reboredo and **Angel Catalá** 605 Fatty acid profiles and lipid peroxidation of microsomes and mitochondria from liver, heart and brain of *Cairina moschata*

Noxolo Mkwetshana, Ryno J. Naudé and **Koji Muramoto** 613 The purification and characterization of μ-calpain and calpastatin from ostrich brain

T.B. Ng and **Y.W. Lam** 625 Solenin, a novel protein with translation-inhibiting activity from the traditional Chinese medicinal fish, the sea dragon *Solenognathus hardwickii*

Diego Alvarez de la Rosa, Julio Avila and **Pablo Martín-Vasallo** 632 Chromatin structure analysis of the rat Na, K-ATPase β2 gene 5′-flanking region

M. Victoria Encinas, Fernando D. González-Nilo, José M. Andreu, Carlos Alfonso and **Emilio Cardemil** 645 Urea-induced unfolding studies of free- and ligand-bound tetrameric ATP-dependent *Saccharomyces cerevisiae* phosphoenolpyruvate carboxykinase. Influence of quaternary structure on protein conformational stability

Elizabeth F. da Silva, Vanessa H. Oliveira, Martha M. Sorenson, Hector Barrabin and **Helena M. Scofano** 657 Converting troponin C into calmodulin: effects of mutations in the central helix and of changes in temperature

Andreimar M. Soares, Yoko Oshima-Franco, Carlos A. Vieira, Gildo B. Leite, Jeffrey E. Fletcher, M.-S. Jiang, Adelia C.O. Cintra, José R. Giglio and **Léa Rodrigues-Simioni** 668 Mn^{2+} ions reduce the enzymatic and pharmacological activities of bothropstoxin-I, a myotoxic Lys49 phospholipase A_2 homologue from *Bothrops jararacussu* snake venom

Hui Zhou, Congyi Zheng, Guolin Zou, Deding Tao and **Jianping Gong** 678 G_1-phase specific apoptosis in liver carcinoma cell line induced by copper-1,10-phenanthroline

Marina A. Guvakova, David Boettiger and **Josephine C. Adams** 685 Induction of fascin spikes in breast cancer cells by activation of the insulin-like growth factor-I receptor

Wulin Aerbajinai, Tadayuki Ishihara, Kiichi Arahata and **Toshifumi Tsukahara** 699 Increased expression level of the splicing variant of *SIP1* in motor neuron diseases

708 Book reviews

Number 7

DIRECTED ISSUE: CELL MOTILITY

Molecules in focus

Zahara M. Jaffer and **Jonathan Chernoff** 713 p21-Activated kinases: three more join the Pak

Clare M. Isacke and **Helen Yarwood** 718 The hyaluronan receptor, CD44

B.J. Perrin and **A. Huttenlocher** 722 Calpain

William Wood and **Paul Martin** 726 Structures in focus—filopodia

Reviews

Margareta Nikolic 731 The role of Rho GTPases and associated kinases in regulating neurite outgrowth

Irina Kaverina, Olga Krylyshkina and **J. Victor Small** 746 Regulation of substrate adhesion dynamics during cell motility

General papers

Jareer Kassis, Robert Radinsky and **Alan Wells** 762 Motility is rate-limiting for invasion of bladder carcinoma cell lines

Jeffrey Chou, Donna B. Stolz, Nancy A. Burke, Simon C. Watkins and **Alan Wells** 776 Distribution of gelsolin and phosphoinositol 4,5-bisphosphate in lamellipodia during EGF-induced motility

Silvia M. Goicoechea, Yizeng Tu, Yun Hua, Ka Chen, Tang-Long Shen, Jun-Lin Guan and **Chuanyue Wu** 791 Nck-2 interacts with focal adhesion kinase and modulates cell motility

Gareth E. Jones, Daniel Zicha, Graham A. Dunn, Mike Blundell and **Adrian Thrasher** 806 Restoration of podosomes and chemotaxis in Wiskott–Aldrich syndrome macrophages following induced expression of WASp

P. Clark, G.A. Dunn, A. Knibbs and **M. Peckham** 816 Alignment of myoblasts on ultrafine gratings inhibits fusion in vitro

Simona Paris, Lorena Za, Barbara Sporchia and **Ivan de Curtis** 826 Analysis of the subcellular distribution of avian p95-APP2, an ARF-GAP orthologous to mammalian paxillin kinase linker

Anna Barbara Hauert, Sibylla Martinelli, Camilla Marone and **Verena Niggli** 838 Differentiated HL-60 cells are a valid model system for the analysis of human neutrophil migration and chemotaxis

Michael C. Brown and **Christopher E. Turner** 855 Roles for the tubulin- and PTP–PEST-binding paxillin LIM domains in cell adhesion and motility

Alice Y. Welch and **Ira M. Herman** 864 Cloning and characterization of βCAP73, a novel regulator of β-actin assembly

J. Sroka, M. von Gunten, G.A. Dunn and **H.U. Keller** 882 Phenotype modulation in non-adherent and adherent sublines of Walker carcinosarcoma cells: the role of cell-substratum contacts and microtubules in controlling cell shape, locomotion and cytoskeletal structure

Number 8

Molecules in focus

Tsukasa Seya and **Misako Matsumoto** 901 A lipoprotein family from *Mycoplasma fermentans* confers host immune activation through Toll-like receptor 2

David S. Latchman	907	Urocortin
Marek Tchórzewski	911	The acidic ribosomal P proteins
General papers		
Benedetto Dainelli, Domenico Paludi, Beatrice Dragani, Roberta Cocco, Daniela Rossi Principe, Massimiliano Petrucci, Felice Mucilli, Angelo Faraone and **Antonio Aceto**	916	A novel glutathione transferase from *Haemophilus influenzae* which has high affinity towards antibiotics
Xiu-Hui Gao, Prem P. Dwivedi, Sophie Choe, Frances Alba, Howard A. Morris, John L. Omdahl and **Brian K. May**	921	Basal and parathyroid hormone induced expression of the human 25-hydroxyvitamin D 1α-hydroxylase gene promoter in kidney AOK-B50 cells: role of Sp1, Ets and CCAAT box protein binding sites
D. Gášková, R. Čadek, R. Chaloupka, V. Vacata, J. Gebel and **K. Sigler**	931	Monitoring the kinetics and performance of yeast membrane ABC transporters by diS-C_3(3) fluorescence
J. Moraczewski, A. Nowotniak, E. Wróbel, M. Castagna, J. Gautron and **I. Martelly**	938	Differential changes in protein kinase C associated with regeneration of rat extensor digitorum longus and soleus muscles
Jiangfeng Su and **Kadriye Ciftci**	950	Changes in *BRCA1* and *BRCA2* expression produced by chemotherapeutic agents in human breast cancer cells
E. Riley, R. Bolton-Grob, N. Liyou, C. Wong, M. Tresillian and **M.E. McManus**	958	Isolation and characterisation of a novel rabbit sulfotransferase isoform belonging to the SULT1A subfamily
Wen-bin Ou, Ri-Sheng Wang, Jie Lu and **Hai-Meng Zhou**	970	Effects of aspartate on rabbit muscle creatine kinase and the salt induced molten globule state
Xi-Cheng Wang, Jian Yang, Wei Huang, Lin He, Jiang-Tao Yu, Qing-Song Lin, Wei Li and **Hai-Meng Zhou**	983	Effects of removal of the N-terminal amino acid residues on the activity and conformation of firefly luciferase
Federico Martínez, Aida Uribe, M. Teresa Espinosa-García, Oscar Flores-Herrera, Cecilia García-Pérez and **Rebeca Milán**	992	Calcium modulates the ATP and ADP hydrolysis in human placental mitochondria
Federico Martínez, Aida Uribe, Rebeca Milán, M. Teresa Espinosa-García, Cecilia Gracía-Pérez and **Oscar Flores-Herrera**	1004	Differential effects of magnesium on the hydrolysis of ADP and ATP in human term placenta. Effect of substrates and potassium
Patrick Sauvant, Vincent Sapin, Armand Abergel, Carsten K. Schmidt, Loïc Blanchon, Marie-Cécile Alexandre-Gouabau, Jean Rosenbaum, Gilles Bommelaer, Edmond Rock, Bernard Dastugue, Heinz Nau and **Véronique Azaïs-Braesco**	1017	PAV-1, a new rat hepatic stellate cell line converts retinol into retinoic acid, a process altered by ethanol

Number 9

Molecules in focus

Sonya Vengrova, Sandra Codlin and **Jacob Z. Dalgaard** — 1031 *RTS1*—an eukaryotic terminator of replication

General papers

Yingfeng Deng, Zhao Wang, Kang Ying, Shaohua Gu, Chaoneng Ji, Yan Huang, Xing Gu, Yiran Wang, Yunmin Xu, Yao Li, Yi Xie and **Yumin Mao** — 1035 NADPH-dependent GMP reductase isoenzyme of human (GMPR2). Expression, purification, and kinetic properties

Kate M. Suchanek, Fiona J. May, Won Jae Lee, Nicola A. Holman and **Sarah J. Roberts-Thomson** — 1051 Peroxisome proliferator-activated receptor β expression in human breast epithelial cell lines of tumorigenic and non-tumorigenic origin

Christian Schwarzer, Shitsu Barnikol-Watanabe, Friedrich P. Thinnes and **Norbert Hilschmann** — 1059 Voltage-dependent anion-selective channel (VDAC) interacts with the dynein light chain Tctex1 and the heat-shock protein PBP74

N. Nunes-Tavares, A. Nery da Matta, C.M. Batista e Silva, G.M.N. Araújo, S.R.W. Louro and **A. Hassón-Voloch** — 1071 Inhibition of acetylcholinesterase from *Electrophorus electricus* (L.) by tricyclic antidepressants

Nándor Müllner, Ágnes Lázár and **András Hrabák** — 1080 Enhanced utilization and altered metabolism of arginine in inflammatory macrophages caused by raised nitric oxide synthesis

Fernando L. Camolezi, Katia R.P. Daghastanli, Prislaine P. Magalhães, João M. Pizauro and **Pietro Ciancaglini** — 1091 Construction of an alkaline phosphatase–liposome system: a tool for biomineralization study

Qiao Wu, Zheng-ming Chen and **Wen-jin Su** — 1102 Anticancer effect of retinoic acid via AP-1 activity repression is mediated by retinoic acid receptor α and β in gastric cancer cells

A. Mohamadi-Nejad, A.A. Moosavi-Movahedi, G.H. Hakimelahi and **N. Sheibani** — 1115 Thermodynamic analysis of human serum albumin interactions with glucose: insights into the diabetic range of glucose concentration

Youn Bok Lee, Kyung Soo Nam, Il Soo Moon, Sook Shin and **In Kook Park** — 1125 Effects of ATP on the stability of enzymes against heat treatment in 6-aminonicotinamide treated quail

Masakazu Ishii, Shunichi Shimizu, Kazuhiro Shiota, Shinichiro Yamamoto, Yuji Kiuchi and **Toshinori Yamamoto** — 1134 Stimulation of tetrahydrobiopterin synthesis by cyclosporin A in mouse brain microvascular endothelial cells

Pi-Ling Chang, Mary A. Tucker, Patricia H. Hicks and **Charles W. Prince** — 1142 Novel protein kinase C isoforms and mitogen-activated kinase kinase mediate phorbol ester-induced osteopontin expression

Morihiro Ito, Shin-Ichiro Takebayashi, Katsuzumi Okumura, Takeshi Ohkubo, Machiko Nishio, Mitsuo Kawano, Hiroshi Komada, Yasuhiko Ito and **Masato Tsurudome** — 1152 Up-regulated expression of a novel gene in activated human peripheral blood mononuclear cells that is a truncated paralog of the human system L-amino acid transporter 1

Carminita L. Frost, Ryno J. Naudé and **Koji Muramoto** 1164 Ostrich antithrombin III: kinetics and mechanism of inhibition of ostrich thrombin

Number 10

Molecules in focus

Anne T. Reutens and **C. Glenn Begley** 1173 Endophilin-1: a multifunctional protein

Pier Paolo Di Fiore and **Giorgio Scita** 1178 Eps8 in the midst of GTPases

Avery August, Angela Fischer, Shengli Hao, Cynthia Mueller and **Melanie Ragin** 1184 The Tec family of tyrosine kinases in T cells, amplifiers of T cell receptor signals

Review

Petr Ježek 1190 Possible physiological roles of mitochondrial uncoupling proteins—UCP*n*

General papers

K. San Román, E. Villar and **I. Muñoz-Barroso** 1207 Mode of action of two inhibitory peptides from heptad repeat domains of the fusion protein of Newcastle disease virus

Tomohiko Suzuki, Nobuhiro Sugimura, Tomoyuki Taniguchi, Yukiko Unemi, Takami Murata, Mami Hayashida, Kohei Yokouchi, Kohji Uda and **Takahiro Furukohri** 1221 Two-domain arginine kinases from the clams *Solen strictus* and *Corbicula japonica*: exceptional amino acid replacement of the functionally important D^{62} by G

Guillermo Noriega, Guillermo Mattei, Alcira Batlle and **Adela Ana Juknat** 1230 Rat kidney porphobilinogen deaminase kinetics. Detection of enzyme–substrate complexes

Ying-Xia Zhang, Ying Zhu, Hong-Wei Xi, Yong-Li Liu and **Hai-Meng Zhou** 1241 Refolding and reactivation of calf intestinal alkaline phosphatase with excess magnesium ions

Xingjie Liang and **Youguo Huang** 1248 Physical state changes of membrane lipids in human lung adenocarcinoma A_{549} cells and their resistance to cisplatin

Gunilla Westergren-Thorsson, Jamila Chakir, Marie-Josée Lafrenière-Allard, Louis-Philippe Boulet and **Guy M. Tremblay** 1256 Correlation between airway responsiveness and proteoglycan production by bronchial fibroblasts from normal and asthmatic subjects

Yamileth Angulo, Timoteo Olamendi-Portugal, Alberto Alape-Girón, Lourival D. Possani and **Bruno Lomonte** 1268 Structural characterization and phylogenetic relationships of myotoxin II from *Atropoides* (*Bothrops*) *nummifer* snake venom, a Lys49 phospholipase A_2 homologue

Vanderlei Folmer, Júlio C.M. Soares and **J.B.T. Rocha** 1279 Oxidative stress in mice is dependent on the free glucose content of the diet

Tonino Bucciarelli, Paolo Sacchetta, Fernanda Amicarelli, Raffaele Petruzzelli, Sonia Melino, Domenico Rotilio, Nicola Celli and **Carmine Di Ilio** 1286 Amino acid sequence of the major form of toad liver glutathione transferase

Ana Merino-Trigo, Francisco Javier Rodríguez-Berrocal, Encarnación de Miguel and **María Páez de la Cadena** 1291 Activity and properties of α-L-fucosidase are dependent on the state of enterocytic differentiation of HT-29 colon cancer cells

Belinda J. Westman, Joel P. Mackay and **David Gell** 1304 Ikaros: a key regulator of haematopoiesis

Kiyoshi Furuhashi 1308 Identification and characterization of a cathepsin B-like protease in *Physarum* sclerotium

Number 11

DIRECTED ISSUE: MOLECULAR AND CELLULAR MECHANISMS OF AGING

Editorial

Geoffrey J. Laurent 1317 Molecular and cellular mechanisms of aging

General papers

Serenella Eppenberger-Castori, Dan H. Moore II, Ann D. Thor, Susan M. Edgerton, Willy Kueng, Urs Eppenberger and **Christopher C. Benz** 1318 Age-associated biomarker profiles of human breast cancer

Florence Chainiaux, Joao-Pedro Magalhaes, François Eliaers, José Remacle and **Olivier Toussaint** 1331 UVB-induced premature senescence of human diploid skin fibroblasts

B.J. Merry 1340 Molecular mechanisms linking calorie restriction and longevity

Corina Borghouts, Christian Q. Scheckhuber, Oliver Stephan and **Heinz D. Osiewacz** 1355 Copper homeostasis and aging in the fungal model system *Podospora anserina*: differential expression of *PaCtr3* encoding a copper transporter

Reviews

David G. Nicholls 1372 Mitochondrial function and dysfunction in the cell: its relevance to aging and aging-related disease

Paul Yaswen and **Martha R. Stampfer** 1382 Molecular changes accompanying senescence and immortalization of cultured human mammary epithelial cells

Simon Melov 1395 Animal models of oxidative stress, aging, and therapeutic antioxidant interventions

Ana Krtolica and **Judith Campisi** 1401 Cancer and aging: a model for the cancer promoting effects of the aging stroma

Olivier Toussaint, Jose Remacle, Jean-François Dierick, Thierry Pascal, Christophe Frippiat, Stéphanie Zdanov, Joao Pedro Magalhaes, Véronique Royer and **Florence Chainiaux** 1415 From the Hayflick mosaic to the mosaics of ageing. Role of stress-induced premature senescence in human ageing

Ioannis P. Trougakos and **Efstathios S. Gonos** 1430 Clusterin/Apolipoprotein J in human aging and cancer

G. Rose, G. Passarino, C. Franceschi and **G. De Benedictis** 1449 The variability of the mitochondrial genome in human aging: a key for life and death?

Géraldine Carrard, Anne-Laure Bulteau, Isabelle Petropoulos and **Bertrand Friguet** 1461 Impairment of proteasome structure and function in aging

Peter Neumeister, Chris Albanese, Beate Balent, John Greally and **Richard G. Pestell** 1475 Senescence and epigenetic dysregulation in cancer

Molecules in focus

S. Michal Jazwinski and **Andreas Conzelmann** 1491 *LAG1* puts the focus on ceramide signaling

Payam Mohaghegh and **Ian D. Hickson** 1496 Premature aging in RecQ helicase-deficient human syndromes

F.W. van Leeuwen, L. Gerez, R. Benne and **E.M. Hol** 1502 + 1 Proteins and aging

Number 12

Editorial

Geoffrey J. Laurent 1507 Cells in focus

Cells in focus articles

Bauer E. Sumpio, J. Timothy Riley and **Alan Dardik** 1508 Cells in focus: endothelial cell

S. Peter Klinken 1513 Red blood cells

Editorial

Geoffrey J. Laurent 1519 Editorial for Medicine in Focus

Medicine in focus articles

D.E. Davies and **S.T. Holgate** 1520 Asthma: the importance of epithelial mesenchymal communication in pathogenesis. Inflammation and the airway epithelium in asthma

Derek Strassheim, Jong Sung Park and **Edward Abraham** 1527 Sepsis: current concepts in intracellular signaling

Molecules in focus articles

Annie Pardo and **Moisés Selman** 1534 Idiopathic pulmonary fibrosis: new insights in its pathogenesis

Neil O. Carragher and **Margaret C. Frame** 1539 Calpain: a role in cell transformation and migration

General articles

Breda Cullen, Paul W. Watt, Charlotte Lundqvist, Derek Silcock, Richard J. Schmidt, Declan Bogan and **Nicholas D. Light** — 1544 The role of oxidised regenerated cellulose/collagen in chronic wound repair and its potential mechanism of action

Jeffrey Hart, Derek Silcock, Stephen Gunnigle, Breda Cullen, Nicholas D. Light and **Paul W. Watt** — 1557 The role of oxidised regenerated cellulose/collagen in wound repair: effects in vitro on fibroblast biology and in vivo in a model of compromised healing

Sumudra Periyasamy and **Edwin R. Sánchez** — 1571 Antagonism of glucocorticoid receptor transactivity and cell growth inhibition by transforming growth factor-β through AP-1-mediated transcriptional repression

C. Caruso-Neves, S.A. Coelho-Souza, D. Vives, G. Goes, L.S. Lara and **A.G. Lopes** — 1586 Modulation of ouabain-insensitive Na^{+}-ATPase activity in the renal proximal tubule by Mg^{2+}, MgATP and furosemide

Lorena G. Fenoll, José Neptuno Rodríguez-López, Ramón Varón, Pedro Antonio García-Ruiz, Francisco García-Cánovas and **José Tudela** — 1594 Kinetic characterisation of the reaction mechanism of mushroom tyrosinase on tyramine/dopamine and L-tyrosine methyl esther/L-dopa methyl esther

Salman Alrokayan — 1608 Purification and characterization of adenosine deaminase from camel skeletal muscle

Maivel H. Ghattas, Linus T. Chuang, Attallah Kappas and **Nader G. Abraham** — 1619 Protective effect of HO-1 against oxidative stress in human hepatoma cell line (HepG2) is independent of telomerase enzyme activity

1629 Letter to the editor

I Contents and Author Index for Volume 34 (2002)